PLAIN DIRECTIONS

FOR THE

PREVENTION AND TREATMENT

OF

CHOLERA.

BY

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"Forsitan hæc aliquis (nam sunt quoque) parva vocabit:
Sed, quæ non prosunt singula, multa juvant."—*Ovid.*

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TO THE

REV. VAUGHAN THOMAS, B.D.,

CHAIRMAN OF

THE OXFORD BOARD OF HEALTH IN 1832;

AUTHOR OF

"MEMORIALS OF MALIGNANT CHOLERA IN OXFORD;"

AND FOREMOST IN EVERY GOOD WORK;

THESE PAGES ARE INSCRIBED, WITH GREAT RESPECT,

BY HIS OBLIGED AND OBEDIENT SERVANT,

THOMAS ALLEN.

PREFACE.

The following pages are written for the guidance of non-professional persons; and, I believe, contain nothing inconsistent with general medical experience.

Disputed questions of contagion and special treatment are purposely avoided; nor is it attempted to set up or support any theory of the cause or nature of Cholera. It is impossible to prevent the mind from forming opinions on undecided points, but they are not fit subjects of discussion in a popular treatise.

During the prevalence of this Epidemic in Oxford in 1832, I had opportunities, as Surgeon to the Cholera Hospital, of watching its progress, and observing its peculiarities: I am constrained to admit that the means adopted for its prevention were far more efficacious than the methods employed for its cure.

Impressed with the conviction of man's insufficiency against such awful dispensations, I dare not vaunt my own experience.

Though I have laboured with head, heart, and hand, through many a fearful case, yet, when professing to publish instructions for others, I have not relied solely on my own observation, but have collected information from other sources.

They who desire to extend their inquiry into the history, nature, and treatment of Cholera, may consult with advantage the Essay on "Choleric Pestilence," in Dr. Copland's Medical Dictionary: "Researches," by Dr. Parkes: an able article in the British and Foreign Medical Review for April, 1847; and another in the same Review, for July, 1848.

Many Treatises on Cholera have lately appeared: most of them are written with a view to establish particular opinions; but, though medical men may derive advantage from such publications, they are not addressed to general readers, nor adapted for popular use.

It is hoped that Heads of Families, and others may find suggestions of practical utility in these pages. With this view the author ventures on their publication.

Oxford, October, 1848.

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Introduction.

Our knowledge of the disease called Cholera is hitherto limited and imperfect. Its history is well known and authenticated; its cause and essential nature are both unknown, or very obscure; its treatment is founded on observation and experiment rather than on any one definite principle.

Origin.

This disease first appeared in Bengal, amid the swamps of the river Ganges; it attacked Nuddea, Jessore, and Calcutta, and travelled from India through Asia to Europe, visiting nearly every populous city and district in its progress through the Continent to our shores. Fourteen years elapsed between its outbreak in India in 1817, and its appearance in England in 1831. Some writers believe this outbreak to be a revival of a disease recorded by ancient authors.

Progress.

It is now again marching onward in the same course as at its last visitation; but, having never ceased in India, it has reached Northern Europe in less time than the first period.

Cause. Its origin is attributed to various causes: by some to a specific virus, by others to malaria, to vegetable or animal miasma, to emanations from the earth, to animalculæ, to fungi, to volcanic or atmospheric changes, and to conditions of electricity. At present there is only presumptive evidence in support of any view professing to account for its cause.

Nature. Whatever its cause, it becomes Epidemic in cities and towns for a certain period: it enters a place like the plague, attacks the predisposed, increases rapidly, reaches its acme, and declines: during its predominance other diseases are less prevalent, or assume its type.

Conditions. Heat, moisture, and certain conditions of soil and atmosphere assist its development.

Power. Its essential nature is known as yet only by its symtoms and effects. It arrests the processes of life in a fearfully short space of time; and destroys its victim more rapidly than any other pestilential disease.[a]

Propagation. Some experienced writers believe it to be contagious; others believe it to be neither contagious nor infectious: whether so or not, the strictest sanatory

[a] Indians call it "The Rapid Death."

cordons and quarantine laws have failed to interrupt its progress.

Medical men of all countries are deeply engaged in the investigation of its cause, nature, and treatment; it is satisfactory to know that, however opinions may vary about its origin and cause, there is less real difference about its treatment; many apparent contradictions being reconcilable on medical grounds. Medical Opinions.

Careful observation of the symptoms during life, of the effects of various remedies, and of the changes discovered after death, furnishes a store of recorded facts, which, *to a certain extent*, teach us how to deal with this remarkable disease. And Experience.

Cholera does not always commence its attack in the same way; the changes in its progress are not uniform; and its duration varies from a few short hours to several days. Yet it is not difficult to distinguish it from other diseases: there are always a few prominent features by which it may be recognised. General description of

In most cases there are warning symptoms, called *Premonitory:* in several these are wanting, and alarming features are present from the commencement. In some cases there is a chain of symptoms link by link proceeding on successively to death or recovery: in others, many links of the chain are absent, and those present do not always follow in the same order; in the worst, the mortal blow is struck at once. This varia- Symptoms and Character.

tion depends on two conditions, viz., the state of the individual attacked, and the degree of the influence to which he is exposed.

In the premonitory stage there is not sufficient character or intensity in the signs to mark the disease; but as the signs increase in degree or alter in character Cholera becomes manifest, and is easily recognised because its predominant features are not associated in any other disease.

Danger if not fallacy of distinction in terms.

Any point of variation from the mildest premonitory symptom to the most fatal feature may be the first perceptible evidence of its attack. Hence, *during an Epidemic*, it is dangerous in practice, if not false in theory, to draw a line of demarcation at any one stage, and say thus far the disease is not Cholera: or, thus far it is only *English* Cholera, but beyond this it is true *Asiatic*. The transition is more in degree than kind; for, if a group of symptoms, forming the milder disorder, may pass into and constitute the graver disease in its fatal form, there is no essential distinction of name or kind; though for the sake of official returns it may be convenient to admit such an arbitrary line.

Premonitory Symptoms or Incipient Stage.

The Premonitory symptoms usually commence with purging and vomiting of bilious matter, mixed with other contents of the stomach and bowels; sometimes nausea, chilliness, faintness and giddiness, with oppression at the pit of the stomach, uneasy breathing, confused

headache and pain of the loins, precede the purging and vomiting: the quantity evacuated from the bowels is often extraordinary, and is followed by great exhaustion; there is sometimes pain, sometimes no pain until cramp comes on; but always a sense of internal sinking.

Transition.

This state may continue for hours, or even days, without much change, then cease and disappear, or increase rapidly in degree, accompanied by cold skin and clammy perspiration; ringing in the ears and deafness; burning heat at the pit of the stomach; excessive thirst, oppressive tightness of the chest; a weak, quick, and fluttering pulse; alarming prostration of strength; cramps in the bowels or extremities; suppression of urine; with evacuations resembling "*rice-water*" in appearance; this latter is a characteristic sign.

Established Symptoms, or Acute Stage.

Stage of Collapse. Symptoms.

As the disease advances, with or without the continuance of purging or vomiting, the countenance becomes shrunken and anxious, assumes a leaden hue and terrified expression; the nose is sharpened, the lips livid, the brow and face bedewed with cold greasy sweat, the tongue white, moist, and cold, the breath raw and cold, the hands, arms, feet, and legs cold, damp, and of a dusky purplish tinge; the respiration slow and shallow, the voice feeble and husky, or reduced to a whining whisper; the eye-balls glazed and sunken; the skin around the eyes and nails of a dirty bluish tint; the

pulse imperceptible at the wrist, and a faint earthy odour is exhaled from the body. These symptoms denote the stage of collapse.

Unfavourable Signs.

Insensibility to surrounding objects, restless tossing of the head, tremor of the frame, and quivering of the limbs are still more unfavourable indications.

Peculiarities.

Generally there is no urine passed after the premonitory stage, but this is not invariably the case. No bile, no feculent colour nor odour is perceived in the evacuations after they have assumed the *rice-water* character, unless as a favourable sign of change, or rare exception to the rule.

Variations.

The order of occurrence in these symptoms may not be always as here detailed: some may not occur at all, nor will they always exist in the same degree, being modified by age, constitution, and previous state of

Certain Signs.

health. But the extreme depression, the icy coldness, the sinking pulse, the cadaverous countenance or "*Cholera visage*," in combination with some of the signs described, sufficiently mark the disease.

Mental State.

The mind, amidst this mortal struggle, is clear, and the intellect unimpaired: as long as the organs of expression have power to obey the will, consciousness can be expressed, and the patient may be roused to utter "yes" or "no," to swallow water or other liquid.

Cases of complete collapse usually run a rapid and fatal course: life may cease at any moment. Still, out of this depth of danger some have recovered. Danger.

Death is often preceded by long intervals between each imperfect act of respiration. The temperature of the body is sometimes slightly increased just before the final sob, and convulsive action of the muscles is often observed in the extremities after death. Fatal Signs.

Re-action, rallying, or the first chance of recovery is indicated by the slow return of warmth to the surface, by the gradual rising of the pulse, by the diminution or cessation of the vomiting, purging, and spasm,[b] by an inclination to sleep, by the re-appearance of bile and feculent colour in the evacuations, by the secretion of urine, and by the countenance resuming the more natural colour and aspect of life. Signs of Re-action.

Nevertheless, relapse may yet occur, and fatal symptoms ensue. Relapse.

Re-action is generally followed by Consecutive Fever, but not always: sometimes a warm critical perspiration comes on, all the distressing symptoms disappear, and the Patient becomes convalescent in a surprisingly short time. These cases are rare. Recovery without or with

Consecutive Fever commences with headache, noise Consecutive Fever. Symptoms.

[b] If the vomiting, purging, and spasms have been long suspended, they sometimes recur as a sign of re-action; if these symptoms have been incessant, they sometimes cease till bile re-appears in the motions: but these three signs are more irregular throughout than any others.

in the ears, and flushing of the face; the pulse becomes sharp and wiry, or full and jerking; the eyes are suffused; the tongue is red at the tip and sides, dry and parched, thirst returns; the breathing is laborious, hiccough is often a symptom; the abdomen is tense and tender; the urine is high-coloured and scanty or still suppressed; the evacuations are dark, offensive, and sometimes bloody: this state may go on like bilious fever, to stupor and death, or decline in severity till convalescence is established.

Organic mischief.

Congestion occasionally takes place in some particular organ, as the lungs, liver, kidneys, or brain, according to previous susceptibility, or as affected by the disease. This condition constitutes a separate and distinct disorder.

Pre-disposing causes.

The pre-disposing causes are—previous ill-health, constitutional debility, anxiety and depression of mind, fear of the disease, neglect of personal cleanliness, insufficient or unwholesome food, deficient or dirty clothing, living or sleeping in ill ventilated rooms.

Exciting causes.

The exciting causes are—intemperance or excess of every description, errors of diet, exposure to cold, damp, fatigue, or impure air.

Possibility of prevention.

Nearly all these causes can be avoided, removed, or abated: but few of them can affect the upper classes of society: some of them can be avoided by every class. Those which the poor are especially exposed to must be

remedied partly by themselves, and partly by those who have power to help them.

Ill-health, weakness, and depression of mind may or may not admit of remedy; at all events, application should be made without delay for appropriate treatment. Depression.

Fear of the disease is a mental weakness, which induces bodily depression: it arises from a mistaken idea of the complaint, and an unworthy view of the ways of Providence; fear cannot avert, though it may attract mischief. Fear.

Personal cleanliness is in almost every one's power; the want of it is a moral evil, as well as bodily risk. Neglect of person.

Food and clothing are the most important necessaries of life: let the idle and improvident do their best to secure enough for themselves and families; let the wealthy and well-to-do seek out and assist the destitute. Food and clothing.

Ill ventilated rooms are more easily remedied than is generally supposed: there are many sorts of simple ventilators to be purchased at reasonable prices.[c] All who can afford it should obtain them. They who cannot should be supplied by benevolent persons or societies. Ventilation.

Intemperance in eating, drinking, or smoking: excess Intemperance. Excess.

[c] Mr. Rogers, keeper of the County Hall, has adapted a cheap ventilator, on Dr. Arnott's principle.

in things not hurtful in moderation may be avoided by everybody. The drunken and dissolute are the chosen victims of Cholera.

Cold, damp, &c. Exposure to cold or damp, and fatigue, must be avoided as well as the occupation and circumstances of each will allow.

Attention to diet. More than ordinary care in diet is requisite when diarrhœa or Cholera is prevalent. All things which people have found to disagree with them should be avoided: unripe fruit, uncooked vegetables, stale or pickled fish, meat made hard by salt, heavy paste, acid beer or wine, ill-made cheese, salads, mixed variety at one meal,—these and all things difficult of digestion

Water. should be avoided. Use pure water for cooking, drinking, and washing.

Impure air. Impure air is one of the most common conducing causes of Cholera as it is of fever: both are most rife in the most populous localities: where want of space is want of air, and what there is is foul. The close-packed masses suffer most, if not first, from Cholera, and the disease preponderates in low, crowded, damp, and dirty districts, where people breathe their own exhalations, polluted by the effluvia of surrounding filth.

Domestic dirt. This cause is not confined to cities and towns, nor to the dwellings of the very poor: it exists in many houses, where least suspected, from the mere want of domestic

cleanliness. Dirty clothes or bedding, filthy floors or furniture, nasty cupboards or drawers, sluttish holes or corners, are sources of impurity. Danger may surround a cleanly habitation from the sheer neglect of careless neighbours, or the indifference of public authorities: foul heaps of refuse or stagnant water, offensive drains or open cess-pools are fountains of impure air that flow into adjacent houses, and generate disease.

Preventive means.

Thus the application of preventive remedies is divided into—1. Those which all can adopt for themselves, and 2. Those in which some must assist others.

Sanatory laws.

In those dense congregations of human misery and filth, where huddled thousands breathe and spread corruption, sanatory laws alone can apply the remedy.

Cottage cleanliness.

The poorer classes in towns and villages may do much in the way of cleanliness and ventilation: the wives of our mechanics and labourers should be encouraged to take pattern of some cleanly neighbour; to learn of some poor woman whose husband earns no more than their own, how possible it is to be decent, clean, and wholesome in their houses, their persons, and their families. The classes above them, too, may often take example from some clean cottage, and set their house in better order.

Preventive means in power of all.

A. The Preventive means which all may adopt for themselves are these—viz.:

Godliness.

I. Daily prayer to Him in whose hands are the issues of life and death, health and disease.

Prayer is rewarded by a confidence which drives out fear, as well as by protection in times of peril.

"Thou shalt not be afraid for any terror by night: nor for the arrow that flieth by day;

"For the pestilence that walketh in darkness: nor for the sickness that destroyeth in the noon-day.

"A thousand shall fall beside thee, and ten thousand at thy right hand: but it shall not come nigh thee."[d]

Cleanliness—Personal and domestic.

II. Personal and domestic cleanliness.

Keep your skin clean and wholesome with soap and water.

Clean out cupboards, holes and corners: burn useless rubbish; scrub floors, stairs, and furniture; wash dirty clothes and bedding; cleanse and purify bedsteads; expose to the air what cannot be washed, and thoroughly dry everything damp; open doors and windows in dry weather, and ventilate sleeping rooms; wash

[d] Psalm xci. v. 5, 6, 7. The following fact proves that the prayer even of idolatrous Indians begets a confidence that can resist disease:—

"Dr. Lorimer mentions a native regiment which has been fortunate enough to have escaped Cholera up to the present date. The commanding officer attributes this to the custom prevalent in the corps of offering up sacrifices previous to a march; the confidence the men have that Cholera will afterwards not attack them seems certainly to have been a protective influence."—*Vide* Brit. and For. Med. Rev., April, 1847. p. 345.

The Hindoo derived confidence from false faith in superstitious rites: will Christian people neglect the blessings of true faith in Divine power and mercy?

doors, pannelling, and skirting boards, and rub them dry; if you can afford it, whitewash ceilings and walls; if not, ask your landlord to do it: let not a cob-web be seen, a dirty rag be smelt, or an unwashed cup, dish, or plate be discovered.

III. Removal or complaint of surrounding nuisance. Removal or complaint of nuisances.

If there is any collection of refuse, muck-heap, or stagnant water near your dwelling, remove it instantly, if your own; if your neighbour's, or landlord's, request him to do so. If annoyed by any public nuisance, complain at once to the authorities of the town or parish in which you reside.

Regulation of diet and clothing is not in the power of all, as it depends on circumstances, and is often limited by means: much, however, may be effected by all: the errors to be avoided have already been mentioned. Exceptions. Temperance is in everybody's power. Temperance.

If ill, send without delay for medical advice.

B. The preventive means in which some must assist others are these—viz.:—1. By kindness, advice, and encouragement. 2. By supplies of food, clothing, and fuel. 3. By materials for cleanliness and ventilation. 4. By the removal of injurious agents. 5. By medicine and other appropriate remedies. Preventive means in which upper must assist lower classes.

They who have the power to assist others must bestir themselves, and take up this duty with zeal and discretion: they who have not the pure motive of Christian charity will find it their best policy for self- Duties of

preservation: they who hold their hand are the allies of pestilence. But in this land the purely charitable outnumber the selfish givers, and the means recommended will be, as heretofore, amply and cheerfully contributed.

Masters. Masters—lay not the burthen of labour too heavily on your servants: spare the weak and aged.

Landlords. Landlords—are the houses of your tenants in good repair? are the floors damp? are the windows broken? do the walls want whitewash? do the roofs let in water? think of your great responsibilities.

Ladies. Ladies—visit and fear not: visit the dwellings of the poor and needy: inquire, search out, and learn their wants, privations, and difficulties: advise the ignorant, encourage the timid, assist the destitute.

Gentlemen. Gentlemen,—give your money, your time, your advice, your example: unite with clergymen, medical men, and householders to form a competent Board of Health: obtain subscriptions of money, food, and clothing: form committees for the collection and diffusion of information: for the establishment of dispensaries, and the distribution of needful articles. Divide the place into districts according to its size. Appoint a professional man to each district. Select women to act as nurses: let the willing and able be invited to register their names; also men to act as porters, in case of an individual being attacked at a distance, or transferred to a Hospital.[e]

Plan of Organization.

[e] *Vide* Note on Hospitals, in the Appendix.

Establish a Dispensary either at a chymist's, or some other central and convenient place. Let there be an office or store provided with the following articles, viz.:

Fuel, soap, washing soda, sand, lime, whiting, brushes, flannel, calico, coarse cloths, blankets, flannel bags to hold hot sand, bran, oatmeal, and chloride of lime. In towns a handbarrow: a well-drilled porter or messenger should be always in attendance. Store of requisites.

Some of these means are useful for prevention; some to assist treatment in case of attack: the intention of most is obvious. With regard to soap and flannel for cleansing, it may be stated that dry-scrubbing has been lately recommended for floors in preference to soap and water: where boards are tolerably clean no doubt it is better, but where an accumulation of filth is to be removed, a thorough cleansing with soap and water first is requisite, after which frequent dry-scrubbing may be sufficient. Use of materials for Cleansing.

People should be invited to apply for lime and brushes, to limewash walls and ceilings; but if they will not, men should be employed to do it for them. In the kitchens, cellars, and pantries of the better class of houses, a little money spent in lime or whiting would not be thrown away. Chloride of lime should also be freely used to purify offensive places: directions for its use are sold with either the liquid or the powder at every chymist's: Sir Limewashing, Purifying.

William Burnett's disinfecting fluid answers the same purpose.

Artificial heat.

When the disease has appeared in a place, abundance of sand should be always kept hot at the store or dispensary. The flannel bags should be three feet long by seven or eight inches wide when loosely filled, to be placed on each side of the patient, from the armpits downwards; others shaped like a common pillow, to be placed at the feet. If sand cannot be got, oats, bran, saw-dust, or hot bricks, may be substituted. The hand-barrow should be long, narrow, and furnished with a tented head-cover—also with a mattress, pillow, and blankets. This mode of conveyance is better than any vehicle on wheels, as the patient is less shaken, can be easily moved on and off, and carried without disturbance to the bed-side—all of which are great advantages.

Convey-ance.

Dispensary. List of Articles for.

The Dispensary, whether separate or not from the above store, should contain,—chloride of lime, salt, mustard, vinegar, brandy, turpentine, æther, strong mint and peppermint water, camphor water (julep), salvolatile, ginger, carbonate of soda, citric acid, castor oil, rhubarb, magnesia, chalk, ipecacuanha, antimony, nitre, tincture of rhubarb, extract of colocynth, blue pill, calomel, opium, laudanum, quinine, acetate of lead, ready-made blisters, and strong liquid ammonia: also an enema syringe, a graduated glass measure, and a set of grain scales and weights. A chymist or other trust-

worthy person to dispense these articles in the absence of professional aid, which in all cases should be instantly sought.

Heads of families living in the country, clergymen, and private individuals, according to their means, or inclination, might keep the following articles of the best quality, viz. :—

	lb.	oz.
Powdered Mustard	4	0
„ Linseed	4	0
„ Ginger	0	4
„ Rhubarb	0	4
Calcined Magnesia	0	4
Prepared Chalk	0	4
Carbonate of Soda	1	0
Castor Oil, one quart bottle.		

	lb.	oz.
Camphor	0	1
Oil of Peppermint	0	1
Essence of Ginger	0	4
Salvolatile	0	4
Tincture of Rhubarb	0	8
Tincture of Catechu	0	4
Laudanum	0	2
Chloride of Lime, one quart bottle.		

Private Store of Drugs.

The following prescriptions may be made up at a chymist's, and kept at home ready for use; viz. :— Prescriptions.

NO 1.—PILLS, SIX DOZEN.

Calomel	2½ grains,
Opium	¼ grain,
Cayenne Pepper	2 grains,

In each pill.

NO 2.—PILLS, THREE DOZEN

Blue-pill	2½ grains,
Compound Extract of Colocynth	2½ grains,

In each pill

NO. 3.—PILLS, THREE DOZEN.

Quinine	2 grains,
Cayenne Pepper	1 grain,

In each pill.

NO. 4.—POWDER, IN A WIDE MOUTHED BOTTLE.

Calcined Magnesia	½ ounce,
Powdered Rhubarb	½ ounce,
Powdered Ginger	¼ ounce.

Mix. Dose—A teaspoonful in a wine glass of peppermint-water.

N.B.—No. 1 and No. 4 are from a circular issued by the Central Board in 1832.

Prescriptions.

The following prescriptions may be made up at home as required, if there is a medicine chest, and any member of the family is accustomed to compound, viz. :—

NO. 5.—SODA DRAUGHT.

Carbonate of Soda	30 grains,
Camphor Water	1½ ounce,
Tincture of Rhubarb . . .	½ ounce,

Mix, for one dose.

NO. 6.—CHALK AND LAUDANUM DRAUGHT.

Prepared Chalk	30 grains,
Cinnamon Water	1½ ounce,
Tincture of Catechu	1 drachm,
Salvolatile	20 drops,
Laudanum[f]	20 drops.

Mix, for one dose.

NO. 7.—ALKALINE MIXTURE.

Carbonate of Soda	2 drachms,
Peppermint Water	½ pint,
Essence of Ginger	½ ounce.

Mix. Dose—Two tablespoonsful every half-hour.

NO. 8.—EFFERVESCING DRAUGHT.

Mixture, No. 7	1 wineglassful
Fresh Lemon Juice	1 dessertspoonful
French Brandy	1 teaspoonful

Put the Lemon Juice and Brandy into a tumbler, then add the glass of Mixture.

If no Lemon Juice, dissolve 15 grains of Citric Acid in a spoonful of water instead.

Sugar may be added to any of the above medicines.

[f] Measured carefully in a glass minim measure.

1 ounce of liquid is equal to 2 tablespoonsful.
1 drachm „ „ 1 teaspoonful.
1½ ounce „ „ 1 wineglassful.

The doses are intended for adults. Doses.

One half for fourteen years of age.

Doses for children according to age.

N.B.—Give no medicines containing laudanum or opium to children without advice. Caution.

For domestic purposes, peppermint or cinnamon-water may be made by dropping forty drops of the essential oil of peppermint or cinnamon on a nob of sugar and half a teaspoonful of magnesia in a mortar, to be well rubbed up and mixed,—add gradually, while mixing, one and a half pint of water, filter through blotting paper, and keep in a clean wine bottle well corked. Camphor water or julep is made by putting two or three small lumps of camphor, about the size of a horsebean, into a clean wine bottle, add a wine glassful of gin or brandy, fill up with water, cork and occasionally shake the bottle; put a label on each bottle. Domestic Recipes.

Mustard poultice is made by mixing equal parts of mustard and linseed powder (oatmeal or bread crumbs will do as well) into a paste with hot vinegar; to be spread on linen or calico, and kept on half an hour or longer, according to the redness or pain produced.

The best emetic is two tablespoonfuls of common salt with a teaspoonful of mustard in half a tumbler of warm water.

Treatment. The Treatment is divided into—

I. That applicable to the Premonitory Symptoms or Incipient Stage.

II. That applicable to the Advanced or Confirmed Stage.

III. That applicable to Consecutive Fever.

I. Treatment of the Incipient Stage.

The remedies consist of—

a. Those which correct or carry off offending matters.

b. Those which restrain diarrhœa and vomiting.

c. Those which sustain the vital powers.

Directions in Incipient Stage. In a vast majority of cases, an attack of Cholera is preceded by looseness of the bowels. This symptom should never be neglected: it may commence with only a loose motion or two, and attract little notice the first day: it may go on to five or six or more liquid evacuations a day without pain at first, increasing in frequency, and then attended with pain. Now this condition is often checked at once by a dose of rhubarb powder No. 4, followed in six hours by the draught No. 6; this is the most simple, and in nine cases out of ten, the most effectual mode of stopping the diarrhœa. For children the dose of powder No. 4, must be reduced according to age, and a teaspoonful of the draught No. 6 (*omitting the laudanum*), every two hours afterwards.

If the patient, an adult, is aware of any error in diet, and complains early enough, let him take an emetic of salt and mustard, as prescribed before, or twenty-five grains of ipecacuanha in half a tumbler of warm water. If there has been no error of diet, if the above means have failed, or if four hours have elapsed since the action of an emetic, give two of the pills No. 1, and four hours after a tablespoonful of castor oil on a little brandy and water; should there be a horror of castor oil, give a dose of No. 4 instead. In two hours after this, give draught No. 5 twice in succession at intervals of two hours. If vomiting is severe, or thirst distressing, give the effervescing draught No. 7 and 8 as directed.

Variety in modes of attack and treatment.

If chilliness and depression come on, put the patient into a warm bed, in a room with a fire, and cover him up warm; should cramp come on, apply a large mustard poultice over the whole front of the stomach, to be kept on from half an hour to an hour, according to the effect; if cramps in the extremities, rub them thoroughly with hot flannel, or hot worsted gloves, grasping and kneading the part affected. If the surface becomes very cold apply hot sand-bags, hot bottles, or hot bricks wrapped in flannel. When the bowels act, use a bed-pan or other convenient mode of preventing the patient from getting out of bed; if he must, or will get out, have ready a warm blanket to throw over him when out.

If purging is not one of the symptoms, or only moderate with pain in the bowels, *especially* if they have been previously costive, commence with two of the pills, No. 2, and then go on with draught No. 5, as previously directed.

Advice about liquids.

As a rule, it is better to avoid drinking till each dose of medicine has been retained a full hour; liquids are not otherwise injurious than by provoking sickness, and preventing the effect of internal medicines; weak brandy and water in small quantities is the best beverage. Should all medicines be rejected, give the effervescing mixture every half hour till vomiting is allayed.

When the above remedies have been fairly tried for ten or twelve hours, and purging continues, give the chalk and laudanum draught No. 6, and repeat, if necessary, in six hours. Meanwhile, if there is great exhaustion, keep up the system by giving two of the pills No. 3, every two hours; and occasional spoonsful of

Invalid diet.

arrow root with a little brandy in it; not much at a time of anything. Should the symptoms abate, and the patient feel better, become warm, and free from pain, a little weak broth or beef-tea, well spiced and salted, may be allowed in small quantities, or other invalid diet as occasion may require, till convalescence is established.

II. Treatment applicable to the Advanced Stage, or Confirmed Malignant Cholera.

Directions in Acute or Confirmed Stage.

As this treatise is intended for the guidance of non-professional persons, and aims rather at prevention than cure, the public will profit more by observing some cautions to be given, than by tampering with remedies which they are not qualified to use. For instance,—bleeding has been found very serviceable under certain circumstances in Cholera, but no non-professional person should venture to bleed, even if they know *how* to do it, because they cannot know *when* it should be done.

There are other active remedies useful in the hands of medical men, which might be injurious in the hands of unskilful persons. Above all things it is necessary to correct erroneous impressions respecting specifics.

Cautions. Nostrums and Specifics. Various remedies,

Put no faith in nostrums, specifics, or antidotes. In 1832 cajeput oil had a great reputation as a cure for Cholera: it was found to be no more efficacious than other essential oils as cordial adjuncts to valid remedies. Opium was vaunted as an antidote; it proved to be only serviceable in moderate and judicious combination. Calomel was pronounced to be a specific; and, assisted by other means, it *almost* deserved the name. Acetate of lead (sugar of lead) was extolled as a sure and

efficient check to the draining diarrhœa: yet fatal cases occurred under its administration. Saline solutions were regarded by Dr. Stevens as a certain cure; yet, as Dr. Watson said, human beings were not so easily cured by salt as herrings; no doubt it was a valuable auxiliary.

Favourite Medicines.

Tartar emetic, nitrate of silver, bismuth, croton oil, musk, nitrous acid, &c., &c., have had their several advocates. Latterly, naphtha has gained a reputation for success in Russia; yet twelve out of every twenty cases at St. Petersburgh have been fatal; it has not been tried in this country, though recommended sixteen years ago.[g] Carbon and carbonic acid are strongly advocated by recent writers; experience must decide their merits.

Value of published Investigations.

By enumerating the above means, it is not intended to cast discredit on any individual remedy or its advocate; for, new and obscure problems of disease must be met by the trial of new and probable solutions. It is the duty of scientific men to publish the results of such trials, and it is their difficulty to relate them without a biassed opinion of their value. The test is soon applied, and the various means are often proved to be either useless, or only different ways of accomplishing the same end. The main thing is to ascertain the object to be fulfilled; and then, the best mode of

[g] Vide *Lancet*, July 28, 1832.

fulfilling it. Rarely is it in medicine that any one unaided remedy can accomplish that object; accessory means are as necessary to ensure success, as the hopeful and trusted "sheet-anchor," whatever it may be. Value of accessory means.

In 1832 people bought large bottles of cajeput oil, large bottles of laudanum, and large bottles of brandy: these were carefully locked up in a cupboard, as charms against Cholera: they were all untouched—except the brandy. Faith in specifics gave way before the test of experience, which proves that no antidote has yet been discovered for Cholera. Let not the timid be dismayed at this assertion: a false dependence on specifics has brought many to the grave: a sound confidence in the skill and judgment of those, whose life is spent in the study of disease, and its treatment, has, under the Divine blessing, saved many. Cajeput oil in 1832. No antidote. Confidence in Medical efforts.

In confirmed cases of malignant Cholera, the treatment found most beneficial by the writer was the following:—Large doses of calomel at the commencement, followed by smaller doses of calomel and opium at short intervals: Bleeding if early and indicated by circumstances: Large mustard poultices to the spine and pit of the stomach: Friction of the abdomen with hot flannel, or the application of flannel dipped in turpentine: Friction of the extremities: Artificial heat: Alkaline mixtures with small quantities of æther, or brandy: Soda water or plain water in moderation to Summary of Treatment in confirmed Cholera.

allay thirst; (which, by the bye, is unquenchable:) Injections of hot salt and water, or of turpentine in salted gruel. Sometimes, if the skin was insensible to the mustard poultice, a small piece of linen dipped in strong liquid ammonia was applied to the pit of the stomach and covered with flannel till the skin was affected. Emetics did not appear serviceable unless given very early. Astringents in this stage were of no permanent benefit. Quinine sometimes did good.

How far non medical persons may venture to treat in confirmed Stage.

In accordance with the above treatment, non-medical persons may adopt the following plan:

Suppose a case to be severe from the first; that there is no time for the means recommended in the incipient stage; or that, in spite of those remedies, *rice-water* evacuations, with cramps, increasing coldness, and extreme prostration occur; send another urgent message for medical attendance, confine the patient to bed, give two of the pills No. 1 immediately, followed up by one of the same with one of No. 3 every two hours; also a teaspoonful of brandy in a table spoonful of mixture No. 7 every quarter of an hour; put a long mustard poultice on the spine, from the nape of the neck to the middle of the back, to be kept on three quarters of an hour; persevere in the application of heat and friction: encourage the patient, and let no alarm be visible in the countenance or manner of any attendant: always tell the medical man what you have given the patient.

III. Treatment applicable to Consecutive Fever.

Consecutive Fever Treatment.

Effervescing saline draughts with small doses of nitre and ipecacuanha; blister to the pit of the stomach; moderate doses of blue pill, colocynth, and hyoscyamus; with occasional draughts of limewater and milk, formed the principal part of the writer's treatment.

But, as this treatment must necessarily be in charge of the professional man who conducted the case through the previous stage, all that attendants have to observe is—implicit obedience to medical directions, especially in diet, unless they would incur the responsibility of a relapse.

Responsibility of Attendants.

Whoever visits or attends upon Cholera patients should observe the following directions. Live rather above par; viz.—take meat and sound beer, wine or brandy and water *in moderation* according to habit and circumstances; wear not the same dress two days following, but hang the clothes of yesterday in the open air if dry till night to be ready for tomorrow; avoid inhaling the breath of the sick; stay not too long at one time in the room; on leaving it repair to some open airy spot, and take five or six forced inspirations and expirations, thereby emptying the lungs of impure air, and replacing it by fresh; keep the feet warm and dry; attend to the bowels; wash hands and face, and rinse your mouth every night as well as morning. If these

Rules to escape infection.

precautions be observed, none need fear contagion: at all events nothing can justify neglect of the sick on the ground of personal danger.

Death and Interment. In case of death, the body should be buried at some period between twenty and thirty hours from the time of decease. This is necessary in justice to the living, and, however painful to relatives, should be complied with for the sake of survivors. Within six hours after death the body should be wrapped in tarred cloth, or in clothes wrung out of solution of chloride of lime, and immediately placed in the coffin, which should be filled up with sawdust mingled with a little dry chloride of lime: this absorbs emanations, and prevents the necessity of fastening the lid in unseemly haste: thus the feelings of friends are less wounded. But in such perilous visitations, individual feeling must give way to considerations for the general good, and all must be prepared to learn lessons of self sacrifice.

Conclusion. Past seasons of public peril and distress in this country have left for imitation many instances of individual devotion, as well as great examples of collective benevolence. Could the slow of heart and slack of hand imagine the reward of active exertion in times of epidemic affliction, all would enlist as ardent volnnteers.

They who provide lint for the wounded after a battle do laudable service. They who prevent the contest perform a nobler duty.

APPENDIX.

It may not be amiss in an appendix to depart from the rule observed in the "Directions," and add a few words on the subject of Contagion: for whatever may tend to calm the public mind should not be withheld. The Metropolitan Sanatory Commissioners have taken great pains to balance the arguments and evidence for and against contagion. The Indian Reports, with the exception of Dr. Kennedy, Orton, and some others, are mostly opposed to the view of contagion, especially that of Mr. Thom, who, after an excellent description of its progress, says:—"These facts are alone sufficient to show that contagion had nothing to do with the spread of the disease." *(Report by Mr. Thom of the epidemic at Kurrachee.)* Though such eminent authority as Dr. Copland is in favour of the doctrine of contagion, the overwhelming evidence lately adduced in opposition to this belief by the Commissioners confirms my previous conviction. "Every witness, with one exception, examined by us, appears to have arrived at the most clear and decided conviction, from what was uniformly observed of its progress in the metropolis, that the disease did not spread from the communication of the healthy with the infected." (*First Report, p.* 15.) My own opinion is quite in accordance with this conclusion, that Cholera is not a contagious disease; though, by the united disadvantages of filth and foul air among masses of the sick in bad situations, an infectious condition may be generated. Dr. Parkes, in his most scientific treatise, says:—"I have never observed any indication of contagion; in

common with the great majority of the Indian writers, my evidence is on the negative side." (p. 190.) Again, speaking of hospital attendants, he says:—"These men were constantly in the Cholera ward, aiding the sick men in and out of bed, putting them into baths, rubbing the cramped limbs, emptying the close stools, and performing all the offices demanded by the patients; and yet not one of these, nor any other of the hospital servants, were attacked. The medical officers were constantly on duty, receiving and inspecting the sick, &c., and yet enjoyed the same immunity." All of the above offices I have done, and this quotation puts me in mind of an incident, that on one occasion, I fell asleep on the bed in which a Cholera patient died the day before, and remained there three hours, not by choice or intention, but from fatigue; on awaking, and recollecting the circumstance, I felt no alarm, and no ill consequences ensued. Nevertheless, I would not willingly do the same thing in some of the *select* Cholera districts described in Mr. Ormerod's "*Sanatory Condition of Oxford.*" "Cholera often originated in places to which it could not have been carried by human beings; and did not occur in some remarkable instances, in which large populous towns held free and daily intercourse with infected districts. Thus, in 1835, Marseilles suffered severely from Cholera, while Lyons remained free, although nearly 10,000 inhabitants of the former city fled for safety to the latter. In 1832, Birmingham remained untouched, although at Bilston, eight miles distant, and having hourly communication with Birmingham, the disease was more severe than in any other town in England." (Br. and For. Med. Rev. for July, 1848, p. 65.)

One word about Houses of Refuge and Cholera Hospitals.

Houses of Refuge, or Observation, where persons may take shelter from infected districts, and remain in safety till the disease disappears, are most useful establishments. The dwellings of the poor can be cleansed and whitewashed, while they themselves are fed, clothed, and maintained in a wholesome atmosphere. The truth of the following extract has been proved.

"Of all known methods recommended and resorted to for checking the spread of the cholera, none can be compared with this process of removing the exposed and endangered from their homes, and providing for them a place of temporary residence in a house of refuge or observation." See "Memorials of Malignant Cholera," by Rev. Vaughan Thomas, p. 25.

Cholera Hospitals are necessary because, in the houses of the class most exposed to attack, the means requisite for treatment are not to be found; and, if supplied by public or private benevolence, can seldom be used for want of space or other deficiency. At the homes of the destitute poor many circumstances combine against the successful management of a case; whereas, in a hospital, all the appliances, that can conduce to a favourable issue, are at hand. The Sanatory Commissioners do not approve of Cholera Hospitals; the following extract is a fair answer to those objections:—

"The Commissioners object to the establishment of Cholera Hospitals on grounds which do not appear to us altogether sound. Thus they state that in the Cholera hospitals, the mortality was much greater than in private houses. This we can readily believe; because the class of patients who went to the hospital, were the destitute, the friendless, and the poverty-stricken; they were often taken great distances, and the hospital which received them was no better than their own miserable homes. . . . . But we conceive the Commissioners have made out no case against good hospitals in good districts, in which cases could be received before the latter stages, when removal, if not immediately dangerous, is eventually hurtful. We conceive it to be almost impossible, that during an epidemic the poor could be attended at their own houses without an enormous staff of medical men and nurses. In an hospital there are, both for the attendants and the patients, all the advantages of combination. Besides, we hold it to be an important indication to remove Cholera patients from the locality in which the poison which has attacked them still exerts upon them its fatal influences; and even apart from this, those who know the confined and baneful dwellings of the London poor, will deem it necessary for the favourable issue of

Cholera, as of almost any disease, to insure them, in the first place, one of the important necessaries of life and health,—an abundant supply of pure and wholesome air. How can this be accomplished in the present day without Cholera hospitals ?" See Brit. and For. Med. Review for July, 1848, p. 107.

The arguments here adduced with reference to the metropolis, apply with almost equal force to all large towns. The mortality in hospitals is no criterion of their usefulness. Many cases were kept under treatment at their own homes till the chances of recovery became more unfavourable, and were then transferred to the hospital. Under such circumstances the wonder is not that the mortality should exceed the average, but that it should so nearly approach it.

Extract from a " Report on the capabilities of Metropolitan Workhouses for the reception and treatment of Cholera cases," p. 68.

" Particular Suggestions in reference to Cholera.

1. We would urge the necessity, in all cases of Cholera, of an instant recourse to medical aid, and also under every form and variety of indisposition ; for during the prevalence of this epidemic, all disorders are found to merge in the dominant disease.

2. Let immediate relief be sought under disorder of the bowels especially, however slight. The invasion of Cholera may thus be readily and at once prevented.

3. Let every impurity, animal and vegetable, be quickly removed to a distance from the habitations ; such as slaughter-houses, pig-sties, cesspools, necessaries, and all other domestic nuisances.

4. Let all uncovered drains be carefully and frequently cleansed.

5. Let the grounds in and around the habitations be drained, so as effectually to carry off moisture of every kind.

6. Let all partitions be removed from within and without habitations, which unnecessarily impede ventilation.

7. Let every room be daily thrown open for the admission of fresh air ; and this should be done about noon, when the atmosphere is most likely to be dry.

8. Let dry scrubbing be used in domestic cleansing, in place of water-cleansing.

9. Let excessive fatigue and exposure to damp and cold, especially during the night, be avoided.

10. Let the use of cold drinks and acid liquors, especially under fatigue, be avoided, or when the body is heated.

11. Let the use of cold acid fruits and vegetables be avoided.

12. Let excess in the use of ardent and fermented liquors, be avoided.

13. Let a poor diet, and the use of impure water in cooking, or for drink, be avoided.

14. Let the wearing of wet and insufficient clothing be avoided.

15. Let a flannel or woollen belt be worn round the belly.

N.B.—This has been found serviceable in checking the tendency to bowel complaint, so common during the prevalence of cholera. The disease has, in this country, been always found to commence with a looseness in the bowels, and in this stage is very tractable. It should, however, be noticed that the looseness is frequently unattended by pain or uneasiness, and fatal delay has often occurred from the notion that Cholera must be attended with cramps. In the earlier stage here referred to there is often no griping or cramp, and it is at this period that the disease can be most easily arrested.

16. Let personal cleanliness be carefully observed.

17. Let every cause tending to depress the moral and physical energies be carefully avoided; let exposure to extremes of heat and cold be avoided.

18. Let crowding of persons within houses and apartments be avoided.

19. Let sleeping in low or damp rooms be avoided.

20. Let fires be kept up during the night in sleeping or adjoining apartments, the night being the period of most danger from attack, especially under exposure to cold or damp.

21. Let all bedding and clothing be daily exposed during winter and spring to the fire, and in summer to the heat of the sun.

22. Let the dead be buried in places remote from the habitation of the living.

By the timely adoption of simple means such as these, Cholera or any other epidemic will be made to lose its venom; so true is it that, 'Internal sanitary arrangements, and not quarantine and sanitary lines, are the safeguards of nations.'"

"These simple measures are worth all the nostrums and specifics which have ever been vaunted for the cure of Asiatic Cholera."—*Lancet*, July 22, 1848, p. 107.

Extract from "Statistical Records of Cholera," by Dr. W. Merriman, published in Medico-Chirurgical Transactions; vol. xxvii. p. 405.

The disease commenced and ended its ravages on the following dates:—

England:—Sunderland, Oct. 26, 1831; and Knaresbro', Dec. 31, 1832.
Scotland:—Haddington, Dec. 25, 1831; and Aberdeen, Dec. 31, 1832.
Wales:—Flint, May 7, 1832; and Abergavenny, Dec. 16, 1832.

	CASES.	DEATHS.	RECOVERIES.	POPULATION.
England	49,594	14,807	33,790	2,753,958
Scotland . . .	20,202	10,650	10,549	937,146
Wales	1,436	498	938	101,603
Isle of Man . . .	276	146	130	6,054
	71,508	26,101	45,407	3,798,761
London and its vicinity . . .	11,020	5,275	5,745	1,424,896
	82,528	31,376	51,152	5,223,657
Ireland, up to March 1, 1833	54,552	21,171	33,381	
	137,080	52,547	84,533	

Being a mortality of 38¼ per cent. on the cases.

The proportion of cases in Great Britain, to the population, is 1 $\frac{19}{37}$ per cent.

The proportion of deaths in Great Britain, to the population, is $\frac{1}{37}$ per cent., according to the copy of the returns.

All places containing above 20,000 inhabitants, besides Sunderland, Bilston, and Gloucester, are quoted in the table on the following page.

The arrangement is according to the numerical value of the per centage of cases.

NAMES OF PLACES AFFECTED.	Number of Cases.	Number of Deaths.	Number of Recoveries	Proportion of Deaths to cases per cent.	Population.
Bilston, Staffordshire	2250	693	1557	31	14492
Newcastle-upon-Tyne	3487	801	2686	38	42760
Sedgeley, Staffordshire	1463	231	1232	15½	20577
Plymouth	1805	702	1103	39	31080
Dudley, Worcestershire	1228	277	951	22½	23043
Exeter	1136	347	789	30½	28201
Sunderland	554	215	339	38	17060
Gloucester	366	123	243	32	11933
Coventry	41	18	23	46	27070
Liverpool	4977	1523	3454	30½	165175
Hull	820	300	520	36½	28591
Carlisle	448	265	183	57	20006
Sheffield	1347	402	945	30	59011
Salford, Lancashire	701	216	485	31½	40786
York	450	185	265	40	25359
Nottingham	796	296	500	37⅓	50680
Leeds	1817	702	1115	39	123393
Devonport	455	228	227	50	34883
Bristol	1612	626	986	39	103886
Shrewsbury	219	75	144	35	21277
Manchester	1323	674	649	55	142026
Oxford*	173	81	92	47	20434
Norwich	321	129	192	40	61110
Bradford, York	114	30	84	23	23233
Portsmouth	192	86	106	45	46282
Wigan	85	30	55	35	20774
Stoke-upon-Trent	165	46	119	26	37220
Bath	74	49	25	62	38063
Derby	32	16	16	50	23607
Stockport	66	29	37	45	66610
Bolton, Great	26	12	14	47	28299
Chester	20	14	6	73	21363
Preston	9	6	3	66	33112
Birmingham	31	21	10	70	146986
Yarmouth	2	2	0	100	21115

* "As this may appear to some a proportion of deaths larger than that in other places, it must be observed that . . . . . nothing found its way into the Oxford Reports, but what was strongly marked and fully developed. If the course pursued in other places had been adopted here, seven hundred and seventy-two more cases might have been annexed to the returns actually made. . . . . If these had been added to the 174 cases returned, the deaths, instead of being one out of two attacked, would have been no more than one out of eleven; by which may be seen the impossibility of drawing any correct inferences respecting the proportions of deaths to the returned totals of cases, because those totals were variously composed, and returned upon different principles in different places." *Vide*, "Memorials of Malignant Cholera in Oxford," by Rev. Vaughan Thomas